

What is claimed is:

1. A tray transferring apparatus for transferring
a tray on which electronic components are mounted, the
5 tray transferring apparatus, comprising:

a main frame;

a fixing means installed on the main frame, for
supporting a fixed tray;

a correcting means installed on the main frame,
10 for correcting the fixed tray supported by the fixing
means;

a gripping means installed on the main frame, for
gripping a handling tray; and

at least one sensor installed on the main frame,
15 for sensing gripper plates and the handling tray.

2. The apparatus of claim 1, wherein the fixing
means comprises:

a first fixing unit installed in one side of the
20 main frame, for supporting one end of the fixed tray;
and

a second fixing unit installed in the other side
of the main frame, for supporting the other end of the
fixed tray.

25

3. The apparatus of claim 2, wherein the first
fixing unit comprises:

a pin installed in one side of the main frame;

a tension spring having its one end installed on the pin;

a first fixing member installed in the other end
5 of the tension spring, for elastically directly gripping one end of the fixed tray, a slot being formed inside the first fixing member; and

a slide member installed to be slidable into the slot, for guiding the moved first fixing member.

10

4. The apparatus of claim 3, wherein a hooking jaw is formed in one end of the first fixing member, so that the fixed tray can be hooked and clamped thereon.

15 5. The apparatus of claim 3, wherein the second fixing unit comprises:

a second fixing member installed in the other side of a base frame, for directly supporting the other end of the fixed tray; and

20 a fastening member for installing the second fixing member on the base frame.

6. The apparatus of claim 5, wherein the second fixing member is formed in a 'L' shape.

25

7. The apparatus of claim 1, wherein at least one correcting means is installed in the center of the main

frame, for supporting the fixed tray.

8. The apparatus of either claim 1 or 7, wherein the correcting means comprises:

5 a plate installed in the upper portion of the base frame;

a compression spring installed in the lower portion of the plate;

a spacer installed in the lower portion of the compression spring, for elastically directly correcting the fixed tray by elasticity of the compression spring; and

a fastening member for coupling and installing the plate, the compression spring and the spacer on the base frame.

9. The apparatus of claim 1, wherein the gripping means comprises:

a gripping unit for gripping the handling tray;
20 a driving unit for driving the gripping unit; and
a guide unit for guiding the gripping unit.

10. The apparatus of claim 9, wherein the gripping unit comprises:

25 a plurality of grippers disposed in the right and left sides of the main frame, for gripping the handling tray; and

a plurality of gripper plates disposed in the right and left sides of the base frame, the plurality of grippers also being disposed in the right and left sides of the base frame and installed on the plurality
5 of gripper plates.

11. The apparatus of claim 9, wherein the driving unit comprises:

a ball screw for moving the gripping unit; and
10 a cylinder for driving the ball screw.

12. The apparatus of claim 9, wherein the guide unit comprises:

a rod for moving the gripper plate of the gripping
15 unit; and
a guide block for guiding the rod.

13. The apparatus of claim 1, wherein the sensor is an optical sensor.

20

14. The apparatus of claim 13, wherein at least one optical sensor is used.

15. The apparatus of claim 14, wherein the optical
25 sensor comprises first and second optical sensors.

16. The apparatus of claim 15, wherein the first

optical sensors are installed in the upper portion of the main frame, for sensing the gripper plates, and the second optical sensors are installed in both sides of the main frame, for sensing the handling tray.